



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/260,796	03/01/1999	JAMES P HUGHES	98-019-NSC	6934

7590 04/09/2002

TIMOTHY R SCHULTE  
STORAGE TECHNOLOGY CORPORATION  
2270 SOUTH 88TH STREET MS-4309  
LOUISVILLE, CO 800284309

EXAMINER

DARROW, JUSTIN T

ART UNIT	PAPER NUMBER
----------	--------------

2132

DATE MAILED: 04/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/260,796

Applicant(s)

HUGHES, JAMES P

Examiner

Justin T. Darrow

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10, 11, 13 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/01/1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-17 have been examined.

#### *Drawings*

2. The drawings filed on 03/01/1999 are acceptable to the examiner and the draftperson.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 9, 11, 13, and 15-17 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Carter, U.S. Patent No. 5,787,175 A.

As per claim 1, Carter illustrates a method for secure handling of information comprising: authenticating a user group with a user group identifier and corresponding password (see column 8, lines 51-59; figure 2, item 48; column 16, lines 16-29; and figure 9, step 152); as a result of

Art Unit: 2132

authentication, obtaining the private key of the user (see column 16, lines 30-37 and figure 9, step 154); and using the private key to decrypt the encrypted document key that is required to decrypt the document (see column 16, lines 60-65 and figure 9, step 160).

As per claim 2, Carter embodies the functions of the operating system being incorporated in individual application programs to access documents (see column 9, lines 62-67; column 10, lines 1-2; figure 2, items 46, 48, 50, and 54; and figure 6, step 120).

As per claim 9, Carter describes a system for the secure handling of information comprising: a generator of public-key cryptographic keys (see column 8, lines 60-65; column 11, lines 55-67; and figure 3, item 74, 76, 78, and 80); an object database system with group objects and key objects (see column 10, lines 14-20 and figure 3, items 70 and 74); a collaborative access controller encrypting the data portion of a document with a randomly generated document key (see column 13, lines 4-17; figure 2, item 50 and 54; figure 4, item 94; and figure 6, step 112); arranging collaborative group identification (see column 13, lines 18-28; figure 2, item 48; figure 3, item 70; and figure 6, step 114); encrypting the document key with the public key of the collaborative group (see column 13, lines 63-67; column 14, lines 1-5 and figure 5, item 100); including the member group definition containing the encrypted document key in the work group document (see column 12, lines 25-42; figure 4, items 54, 90, 94, and 96; and figure 5, item 100); and storing the work group document in a file in a computer system (see column 12, lines 9-14 and figure 1, item 10).

As per claim 11, Carter points out that the member is verified if the corresponding identifier is found (see column 16, lines 51-62; column 15, lines 46-48; figure 5, item 98; and figure 9, step 154). Carter does not explicitly disclose the feature of a boolean combination

Art Unit: 2132

resultant of true. However, this feature is deemed to be inherent to the system of Carter as the finding of the member identifier in a logical alternative for access (see column 16, lines 51-62; column 15, lines 46-48; figure 5, item 98; and figure 9, step 154). The system of Carter would be inoperative if this logical consequence did not result.

As per claim 13, Carter additionally show obtaining the private key (see column 16, lines 30-33; figure 9, step 154); determining that the document to which access is requested is a work group document (see column 16, lines 16-19; figure 2, item 54; and figure 4, item 90); searching the collaborative document for the member identifier (see column 16, lines 51-55 and figure 9, step 158); request access to the work group document (see column 16, lines 16-19 and figure 4, item 90); using the private key to decrypt the corresponding encrypted document key (see column 16, lines 60-65 and figure 9, step 160); and using the document key to decrypt the encrypted data portion of the collaborative document (see column 17, lines 5-10; figure 4, items 90 and 94; and figure 9, step 162).

As per claim 15, Carter further elaborates a user requesting the addition of a new member (see column 14, lines 44-51); verifying this user (see column 14, lines 44-51 and figure 7, step 122); decrypting the encrypted document key with the private key (see column 15, lines 17-23; figure 3, item 80; and figure 4, item 100); and encrypting the document key with the public key of the new member (see column 15, lines 22-23; figure 3, item 78; and figure 4, item 100).

As per claim 16, Carter suggests that the attempt to access the document is logged (see column 16, lines 44-50).

Art Unit: 2132

As per claim 17, Carter embodies the collaborative access controller operable to make changes including additions (see column 14, lines 44-51) and deletions (see column 15, lines 31-40).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter, U.S. Patent No. 5,787,175 A in view of Feistel, U.S. Patent No. 3,798,360 A.

As per claim 3, Carter depicts a method for secure handling of information comprising: creating group objects (see column 10, lines 14-20 and figure 3, item 70); obtaining a public key and private key (see column 11, lines 61-67; column 12, lines 1-8; and figure 3, items 76, 78, and 80); encrypting the data portion of a document with a generated document key, preferably for use with a symmetric encryption method (see column 13, lines 4-17; figure 2, item 50 and 54; figure 4, item 94; and figure 6, step 112); arranging collaborative group identification (see column 13, lines 18-28; figure 2, item 48; figure 3, item 70; and figure 6, step 114); encrypting the document key with the public key of the collaborative group (see column 13, lines 63-67; column 14, lines 1-5 and figure 5, item 100); including the member group definition containing the encrypted document key in the work group document (see column 12, lines 25-42; figure 4, items 54, 90,

Art Unit: 2132

94, and 96; and figure 5, item 100); and storing the work group document in a file in a computer system (see column 12, lines 9-14 and figure 1, item 10). Although Carter describes that the document key is preferably suitable for use with a symmetric cryptographic method (see column 13, lines 7-10), he does not explicitly teach that it is randomly generated. Feistel specifies a random key number generator in a symmetric key block cipher (see column 5, lines 18-23 and figure 1, item 43). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to combine the method for the secure handling of information of Carter with the random key generator of Feistel to have a degree of security that relates to the probability of guessing the unique combination of key binary digits by an opponent having both the knowledge of the internal circuitry of the system and the opportunity to observe prior transmissions and resulting ciphers (see column 5, lines 9-14).

As per claim 4, Carter further elaborates a user requesting the addition of a new member (see column 14, lines 44-51); verifying this user (see column 14, lines 44-51 and figure 7, step 122); decrypting the encrypted document key with the private key (see column 15, lines 17-23; figure 3, item 80; and figure 4, item 100); and encrypting the document key with the public key of the new member (see column 15, lines 22-23; figure 3, item 78; and figure 4, item 100).

As per claim 5, Carter suggests that the attempt to access the document is logged (see column 16, lines 44-50).

As per claim 7, Carter points out that the member is verified if the corresponding identifier is found (see column 16, lines 51-62; column 15, lines 46-48; figure 5, item 98; and figure 9, step 154). Carter does not explicitly disclose the feature of a boolean combination resultant of true. However, this feature is deemed to be inherent to the method of Carter as the

Art Unit: 2132

finding of the member identifier in a logical alternative for access (see column 16, lines 51-62; column 15, lines 46-48; figure 5, item 98; and figure 9, step 154). The method of Carter would be inoperative if this logical consequence did not result.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carter, U.S. Patent No. 5,787,175 A in view of as applied to claim 9 above, and further in view of Feistel, U.S. Patent No. 3,798,360 A.

Carter discloses the system for the secure handling of information of claim 9. Although Carter describes that the document key is preferably suitable for use with a symmetric cryptographic method (see column 13, lines 7-10), he does not explicitly teach that it is randomly generated. Feistel specifies a random key number generator in a symmetric key block cipher (see column 5, lines 18-23 and figure 1, item 43). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to combine the system for the secure handling of information of Carter with the random key generator of Feistel to have a degree of security that relates to the probability of guessing the unique combination of key binary digits by an opponent having both the knowledge of the internal circuitry of the system and the opportunity to observe prior transmissions and resulting ciphers (see column 5, lines 9-14).

***Allowable Subject Matter***

8. Claims 6, 8, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



Art Unit: 2132

9. The following is a statement of reasons for the indication of allowable subject matter:

Claims 6 and 14 are drawn to a method and system for the secure handling of information, respectively. The closest prior art, Carter, U.S. Patent No. 5,787,175 A, discloses a similar method and system. However, he neither teaches nor suggests an encrypted partial key for each group in a plurality of groups, encrypted with the public key for that group, and each partial key required to decrypt the encrypted randomly generated number. This combination of limitations explicitly incorporated in dependent claims 6 and 14 renders them to have allowable subject matter. Claims 8 and 12 are drawn to a method and system for the secure handling of information, respectively. The closest prior art, Carter, U.S. Patent No. 5,787,175 A, discloses a similar method and system. However, he neither shows nor motivates prohibiting storage on the at least one trusted storage device in the information set is determined not to be encrypted. This step explicitly recited in dependent claims 8 and 12 renders them to have allowable subject matter.

#### *Telephone Inquiry Contacts*

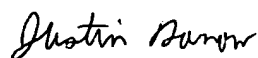
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin T. Darrow whose telephone number is (703) 305-3872 and whose electronic mail address is justin.darrow@uspto.gov. The examiner can normally be reached Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barrón, Jr., can be reached at (703) 305-1830.

Art Unit: 2132

The fax numbers for Formal or Official faxes to Technology Center 2100 are (703) 305-0040 and (703) 746-7239. Draft or Informal faxes for this Art Unit can also be submitted to (703) 746-7240. In order for a formal paper transmitted by fax to be entered into the application file, the paper and/or fax cover sheet must be signed by a representative for the applicant. Faxed formal papers for application file entry, such as amendments adding claims, extensions of time, and statutory disclaimers for which fees must be charged before entry, must be transmitted with an authorization to charge a deposit account to cover such fees. It is also recommended that the cover sheet for the fax of a formal paper have printed "**OFFICIAL FAX**". Formal papers transmitted by fax usually require three business days for entry into the application file and consideration by the examiner. Formal or Official faxes including amendments after final rejection (37 CFR 1.116) should be submitted to (703) 746-7238 for expedited entry into the application file. It is further recommended that the cover sheet for the fax containing an amendment after final rejection have printed not only "**OFFICIAL FAX**" but also "**AMENDMENT AFTER FINAL**".

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Justin T. Darrow

Patent Examiner

Technology Center 2100

April 8, 2002